



## Concentrating antibodies towards BVDV from milk

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### CONCENTRATING ANTIBODIES TOWARDS BVDV FROM MILK

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#### Purpose

Bulk tank milk is used for Bovine Viral Diarrhoea (BVD) surveillance of Danish dairy herds. The purpose of the study was to improve the sensitivity of bulk milk testing by concentrating the antibodies present in milk.

#### Methods

Commercial low-fat milk produced in either Germany or Denmark and sequential bulk-milk samples from 2 herds were analyzed. *Cattletype* milk prep kit (Labor Diagnostic, Leipzig, Germany) was used as described by the producer using 50 ml milk sample eluted in 200 µl. Antibody tests were performed by an in-house Blocking ELISA or the indirect SVANOVA BVDV-Ab (Böhringer Ingelheim, Svanova, Sweden).

#### Results

Antibodies in milk were concentrated approximately 50 times using *Cattletype*, determined by titration of original sample compared to eluted. The concentration process is time consuming involving adsorption to a matrix and several centrifugation steps followed by elution. The elution process was improved by eluting several times from the same matrix. Elutes from *Cattletype* should be diluted in sample buffer before analysis by indirect ELISA; optimal results were obtained with dilutions of 1:4 or 1:8 of the eluted antibodies. False negative results were obtained using a blocking ELISA probably due to pH variations.

#### Conclusions

Pretreatment using *Cattletype* increased the sensitivity of antibody detection in milk approximately 50 times for both raw and commercial milk. *Cattletype* cannot be used for high throughput analysis, but would be of interest for selected herds. Optimizing of the antibody detection assay improved the test.

#### Support

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